Attachment 8

Jo

MISSOURI DEPARTMENT OF NATURAL RESOURCES WATER POLLUTION CONTROL PROGRAM

FORM S - DOMESTIC SLUDGE REPORTING

SECTION 1 - GENERAL INFORMATION

REPORTING PERIOD: (YEAR) 2002	
FACILITY NAME: ROCKANDY BOWN WUTT. P. PERMIT NUMBER: MO-0108162	CITY NAME: City of Rockaus COUNTY NAME: TAKEY
Instructions: See Instruction Sheet for directions.	
1. Sludge Production, including sludge received from others: Actual Dry Tons/Year 600 Actual Population Equivalent 2. Sludge Treatment:	
Anaerobic Digester Storage Tank Lime Stabilization Aerobic Digester Air or Heat Drying Other, Describe,	Composting
3. Sludge Use or Disposal: Complete the rest of this form only for the sections app biosolids use or disposal.	licable to your method of sludge and
X Ali Permitees Land Application (LA) Contract Hauler (CH) > 150 PE Contract Hauler (CH) < 150 PE Contract Hauler (CH) < 150 PE Complete Sections Complete Sections Complete Sections Complete Sections Complete Section Solid Waste Landfill (LF) Complete Section Sludge Disposal Lagoon (SD) Incineration (IN) Sludge Hauled to Incinerator (IO) Complete Section Complete Section Complete Section Complete Section Complete Section	s 2 & 3 s 2 & 4 4 4 5
4. Certification: I certify under penalty of law that the information contained in this correct. This determination has been made under my direction or supervision in acc assure that qualified personnel properly gather and evaluate the information used to been met. I am aware that there are significant penalties for false certification, including property.	cordance with a system designed to determine these requirements have
Edwin K. Godley Plant opens	TOR Official Title
Colley Polley Page 23, 283 - Signature	417-561-4484 Phone

FORM S - SECTION 2 LABORATORY RESULTS

FORM SA

SLUDGE MONITORING RESULTS FOR METALS, NUTRIENTS, PATHOGENS AND VECTORS

Permit No: MO- 0/03/63	2	Report	Period: Ca	lendar Yea	= 2002
Facility Name: Rocking	Ry Benin	WWT.P.			
Use this form to report so control permit (NPDES) So a copy, contact the depa				issouri wa 1 15, Augu	ter pollution st, 1994. For
If the Facility has a des the sludge generated as s 422 guide, Land applicat	sign popul eptage and ion of Sep	ation equival consequent tage, for for	lent (P.E.) ly, no testi urther guid	of 150 or ing is requance.	less, treat lired. See WQ
		on dry weigh			
Attach copies of				tems below	' a
					_
A. MINIMU	M MONITOR	ING LIST FOR	ALL PERMIT	TEES	10
PARAMETER	UNITS	AVERAGE	MINIMUM	MAXIMUM	NUMBER OF SAMPLES
Total Solids		1,63			9
Total Arsenic	mg/kg	<6.1	4/	75	9
Total Cadmium	mg/kg	1,23	39	85	9
Total Chromium	mg/kg	16.0	120C	3000	9
Total Copper	mg/kg	157	1500	4300	9
Total Lead	mg/kg	26.4	360	840	9
Total Mercury	mg/kg	<61	17	57	9
Total Molybdenum -	mg/kg	7,98	18	15	9
Total Nickel	mg/kg	6,15	420	420	Of
Total Selenium	mg/kg	6,14	36	100	9
Total Zinc	mg/kg	1260	2900	1500	7
B. ADDITION	NAL MONITO	RING FOR LAN	ND APPLICATI	ON	
Total Kjeldahl Nitrogen	mg/kg				
Total Phosphorus as P	mg/kg				
Total Potassium as K	mg/kg				
If more than 2 dry tons of		r acre/vear	is applied	complete	followings
Organic nitrogen as N	mg/kg	Fr 2	FFx460	-ombrece	rorrowing:
Ammonia Nitrogen on N			8		

Nitrate Nitrogen as N

mg/kg

Form S - Section 2. Page 2 of 3

С.	DOLLAR		
-	POLLUTANT LI	MITS	
POLLUTANT	AV. SAMPLE CONCENTRATIONN mg/kg DRY WGHT	LOW METAL CONCENTRATION mg/kg DRY WGHT	CEILING CONCENTRATION
Arsenic	_<.61	41	mg/kg DRY WGHT
Cadimium	123		75
Chromium	16.0	39	85
Copper	157	1,200	3,000
Lead	36.4	1,500	4,300
Mercury	561	300	840
Molybdenum	7 99	17	57
	100	18	75
Nickel	- 6 17 11/1	420	420
Selenium	1010	36	100
Zinc	1860	2,800	7,500
			51
D.	PATHOGENS		
	LATHOGENS		
	3	l for all sludges to sho s treated by a PSRP app	roved method
2,000,0 gram of	ometric mean of the de 200 Most Probable Numb total solids (dry we	ensity of fecal coliform er (MPN) or Colony Form ight basis) for each gro	is less than ing Units (CFU) per oup of 7 samples:
_k	Yes No	Sampling frequency	DOR 4000
Geometr	ic mean per gram of t	otal solids for each gro	oup of 7 samples was:
2,09	O COU MPN/CFU	Sample date	2/02
	MPN/CFU	Sample date	7
	MPN/CFU	Sample date	
	9		
E.	117.000		
	VECTOR REDUCTION		
38	percent volatile soli	ds reduction (attach ca	lculations).
1/ Sot	JR test, mg O2/hr/g (at	ttach graph and calculat	ions).
Oth	er. Attach explanati	0.0	

Form S - Section 2. Page 3 of 3

FORM SB SLUDGE MONITORING RESULTS FOR PRIORITY POLLUTANTS AND OTHER SPECIAL TESTING

Permit No: MO-		Report P	Period: Ca	lendar Year	
Facility Name:					
Report	all resul	lts on dry	weight bas	is.	
F.	PRIORI	Y POLLUTAN	TS		
Report only those pollutan pollutants listed in secti	ts that won 2A. A UNITS	ere above ttach addi AVERAGE	detection tional shee	limits. Do ts as needed	not repeat NUMBER OF SAMPLES
	•				
				-	
					
					
					
					
	•				
[8 em					
G. OTHER SPE	CIAL MONI	TORING REQ	UIRED BY PE	RMIT	
Report results of any addit section of your permit.	cional te	sting requi	ired under	the Special	Conditions
		-			
<u> </u>					

MISSOURI DEPARTMENT OF NATURAL RESOURCES - WATER POLLUTION CONTROL PROGRAM

FORM SC LAND APPLICATION OF BIOSOLIDS WITH LOW METALS CONCENTRATIONS

Use this form for application sites which have received biosolids with low metals concentrations per Section 3.22 of Form S. Enter the site number for each field based on the site maps on file at the facility. Report biosolids application rate in dry tons per acre per year (dt/ac/yr). Attach additional copies of this sheet as needed.

Report Period: Calendar Year No. MO- 0108 162
Permit No: MO-0108167 Report Period: Calendar Year
Facility Name: Rock AWAY BUNN WWTP.
Cita No. 1 Owners Name: Shirt MCCAMA
1/4 Sec , T, R, County
Disposition dt/ac/vr Acres Nitrogen: IDS/ac/yr (INV 01 IIII)
Crops grown: Soil pH
Cite No Owners Name:
Legal:1/4,1/4, Sec, T, R, County
Piocolids dt/ac/vrAcres Nitrogen: lbs/ac/yr (IRV of IAX)
Crops grown: Soil pH
Owners Name:
1/4 1/4 Sec , T, R, County
Biosolids:dt/ac/yrAcres Nitrogen:lbs/ac/yr (TKN or PAN)
Crops grown:Soil pH
Crops grown:
Owners Name:
Legal:1/4,1/4, Sec, T, R, County
Riccolide, dt/ac/yr Acres Nitrogen: IDS/ac/yr (Max 02 112)
Soil ph
Cite No Owners Name:
Legal:1/4,1/4, Sec, T, R, County
Biosolids: dt/ac/yrAcres Nitrogen:lbs/ac/yr (INN of PAN)
Crops grown: Soil pH
Site No Owners Name:
Legal:1/4,1/4, Sec, T, R, County
Biosolids:dt/ac/yrAcres Nitrogen:lbs/ac/yr (TKN or PAN
Crops grown: Soil pH

FORM S - SECTION 3 LAND APPLICAT Report Period: Calendar Year 2002 Facility Name: 3.00 Land Application - General This section is based on Missouri Water Pollution Control Permit Standard Conditions Part III dated August 15, 1994. For a copy, contact the department at (314) 751-6825. Complete this section if sludge or biosolids were land applied for beneficial use by permittee or by contract hauler under permittee authority. 3.01 At dry tons of sludge applied during the report period. average percent solids If less than 12% solids: total gallons for year If 12% solids or greater: _ cubic yards for year. 3.02 Sludge storage provided: 200,000 gollows cubic feet; ____ days of storage. Number of days each month that sludge was land applied: Apr May June July Aug Sept Oct Nov Dec 3.03 Who applies your sludge? Permittee personnel No Yes Contract person No Other, describe:__ (Per Section H of Part III Standard Conditions) 3.11 Are there any land application sites farther than 20 miles from the wastewater treatment facility? ____ Yes ____ No If yes, a separate permit is required for those sites; indicate permit numbers or submit new permit application for each site: Permit numbers: 3.12 Are any industrial sludges land applied by the permittee? If yes, complete the following: Permit No: Yes Type of sludge SIC Code 3.13 Are alternate limits or exceptions listed in the Special Conditions section of the permit? Yes No If yes, attach explanation sheet. 3.14 Is sludge received from any out-of-state generators? If this sludge is handled separately, complete separate Sections 2 and 3 of form S for the out-of state sludge.

Y----(--

3.20 Pollutant Limitations	
3.21 Are metals within the ceiling concentration limit	
Yes No If no, attach explanation	sheet.
3.22 Are metals within the low metals concentrations as sludge applications to date (including previous ye 500 dry tons/acre?	nd the total of all ears) have not exceeded
Yes No Attach list of sites using	g Form SC.
3.23 If you answered "No" to 3.22, complete the follows	ing.
Have metals application rates reached any of the cloadings? This is based on contributions from all loadings, including industrial sludges.	cumulative metals historical sludge
Yes No Attach a list of sites us	ing Form SD.
Soil test results for metals may be used if historemetals concentration in parts per million (present top six inches of soil and calculate pounds per acrespond (dry wt) in soil x 2 = pounds per acrespond	om) dry weight for the cre as follows:
ppm (dry wt) in soil x 2 = pounds per acre	lor o Borr depth.
3.30 Management Practices	
3.31 Nitrogen Limitations	
Which of the following nitrogen approaches was use	
Sludge applied up to 2 dry tons/acre/year?	Yes No
Plant Available Nitrogen (PAN) approach?	Yes No
number of composite samples. Results for F and pounds per dry ton of sludge (lb/dt) [lb/dt =	PAN in mg/kg dry weight 0.002 x mg/kg]:
Average Minimum	Maximum
PANmg/kgmg/kg	mg/kg
PANlb/dTlb/dT	lb/dT
3.32 Have sludge applications complied with the following as listed in the University of Missouri WQ 426 guing Practices for Biosolids Land Application?	ng management practices de, <u>Best Management</u>
1. No discharge of biosolids from application site	Yes No
2. Public contact sites restriction	Yes No
3. Crop restrictions	Yes No
4. Harvest and grazing restictions	Yes No
5. Threatened or endangered species protection	Yes No
6. Nitrogen limitations	Yes No
7. Buffer zones	Yes No
8. Slope limitations for application sites	Yes No
9. Storm water runoff	
J. UCULM WACCE Zamo	Yes No
10. Frozen, snow-covered or saturated soil conditions	Yes No

FORM S - SECTION 3. - Page 3 of 4 ___ No 11. Biosolids storage ___No 12. Application rates ___ No 13. Application equipment _ No 14. Soil pH limitations No 15. Soil phosphorus limitations No 16. Soil depth limitations No 17.. Record keeping If No, attach sheet with explanation. 3.33 Class A Sludge (Per WQ 424 guide - Biosolids Standards for pathogens and vectors) Does the sludge meet Class A pathogen reduction? Yes Has Class A sludge been applied to public use sites? Yes If yes to the second question in 3.33, contact DNR. 3.40 Operational Standards for Class B Biosolids (see WQ 424) Class B pathogen reduction requirements were met by either fecal coliform limits under section 2D or a PSRP listed in WQ 424, Table 2. Attach supporting data and indicate process option used. Class B pathogen requirements not currently met; Attach explanation and schedule of compliance. 3.41 Vector Attraction reduction requirements were met. (Per WQ 424 - Monitoring Requirements for 3.50 Monitoring Frequency (Per Biosolids Land Application) Attach a summary of the monitoring results on Form SA 3.51 Sludge testing for metals was performed: __once/6 months once/year ___ once/month once/quarter ____ once/100 dry tons removed from lagoon. ___ once/week ___ Other, specify _ 3.52 Permittee is required to have an approved pretreatment program. If yes attach Form SB. V No Yes 3.53 Total Solids testing was performed at least once per day during land application periods? If No, attach explanation. Yes ___ No If No, attach explanation. __ No

FORM S - SECTION 3. - Page 4 of 4

3.55 Total phosphorus and total potassium were tested at the same frequency required for metals as indicated in WQ 423.
Yes No If No, attach explanation.
3.56 Soil testing for pH and Cation Exchange Capacity (CEC) and available phosphorus has been conducted within the last five years.
Yes No If No, attach explanation.
3.57 Was any additional sludge or soil testing required under the special conditions section of your water pollution control (NPDES) permit?
Yes No If yes, attach a summary using Form SB.
Permit No: MO-108/62 Report Period: Calendar Year 2002
Facility Name: Rockaway Blach ww.T.P.
The state of the s
3.60 CERTIFICATION FOR LAND APPLICATION
Check all that apply.
I certify under penalty of law that:
records on testing, and pollutant loadings, as listed above in Section 2, have been kept in accordance with 40 CFR 503.17.
the management practices, as listed above in Section 2, have been met in accordance with 40 CFR 503.14.
the Class B pathogen requirements and the site restrictions, as listed above in Section 2, have been met in accordance with 40 CFR 503.15 and 503.32.
one of the vector attraction requirements, as listed above in Section 2, have been met in accordance with 40 CFR 503.15 and 503.33.
This determination has been made under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information used to determine these requirements have been met. I am aware that there are significant penalties for false certification, including the possibility of fine and imprisonment.
Name Edyin K. Gadley Plant operator Official Title
Signature Date Date



2804 EAST BATTLEFIELD, SPRINGFIELD, MISSOURI 65804, 417-882-1017, 1018

CITY OF ROCKAWAY BEACH

CaSi File/Case/Log: 0289/023701-3702/1447.

Samples Received 12-30-02; 11:24.

January 21, 2003 Page 4

Values expressed in milligrams per liter, unless otherwise specified.

CONTROL NUMBER		023701	023702		
SAMPLE DESCRIPTION		INFLUENT	EFFLUENT	ANALYSIS	
PARAMETER	METHOD	12-30-02 09:15	12-30-02 09:20	DATE/TIME	
TOTAL PHOSPHORUS as P	365.2 *+	9.74	0.938	12-30-02 19:45	

EPA Methods for Chemical Analysis of Water and Wastes, 1983, Cincinnati, Ohio.

Spectrophotometric.





2804 EAST BATTLEFIELD, SPRINGFIELD, MISSOURI 65804, 417-882-1017, 1018

CITY OF ROCKAWAY BEACH

CaSi File/Case/Log: 0289/023690-3691/1446.

Samples Received 12-27-02; 11:06.

December 31, 2002 Page 2

Values expressed in milligrams per liter, unless otherwise specified.

CONTROL NUMBER		023690	023691		
SAMPLE DESCRIPTION	EFFLUENT	INFLUENT	ANALYSIS		
PARAMETER METHOD		12-27-02 09:00	12-27-02 09:45	DATE/TIME	
TOTAL PHOSPHORUS as P	365.2 ❖┿	0.735	8.12	12-30-02 19:45	

J. Bry

EPA Methods for Chemical Analysis of Water and Wastes, 1983, Cincinnati, Ohio.
 Spectrophotometric.





2804 EAST BATTLEFIELD, SPRINGFIELD, MISSOURI 65804, 417-882-1017, 1018

CITY OF ROCKAWAY BEACH, MISSOURI

January 21, 2003

Re: CaSi File/Case/Log: 0289/023693-3700/1446,1447.

Page 2

Sludge Sample Collected 12-30-02; 08:30-09:30,09:40-09:45,09:50,09:55,10:00,10:10,10:15.

Received 12-30-02; 11:24.

PARAMETER	WET WEIGHT VALUE mg/kg	DRY WEIGHT VALUE mg/kg	DRY WEIGHT VALUE lbs/ton
ARSENIC, total	<0.1	<6.1	<0.01
CADMIUM, total	0.02	1.23	0.003
CHROMIUM, total	0.26	16.0	0.03
COPPER, total	2.56	157	0.31
LEAD, total	0.43	26.4	0.05
MERCURY, total	<0.1	<6.1	<0.01
MOLYBDENUM, total	0.13	7.98	0.02
NICKEL, total	0.11	6.75	0.01
SELENIUM, total	0.1	6.14	0.01
ZINC, total	20.6	1260	2.5
TOTAL KJELDAHL NITROGEN	815	50000	100
AMMONIA AS NITROGEN	28.1	1720	3.4
NITRATE/NITRITE AS NITROGEN	6.7	411	0.82
TOTAL PHOSPHORUS AS P	318	19500	39
TOTAL POTASSIUM	119	7300	15
PLANT AVAILABLE NITROGEN	184	11300	23
FECAL COLIFORM Geometric Mean of 7 Samples	34,100	2,090,000	UNITS CFU/g
PERCENT SOLIDS	1.63 %		
VOLATILE PERCENT OF SOLIDS	79.76 %		
PERCENT ASH	0.33 %]	

JOB Ly

US EPA Test Methods for Evaluating Solid Waste, SW-846, Third Edition 1986, and the Latest Promulgated Update.

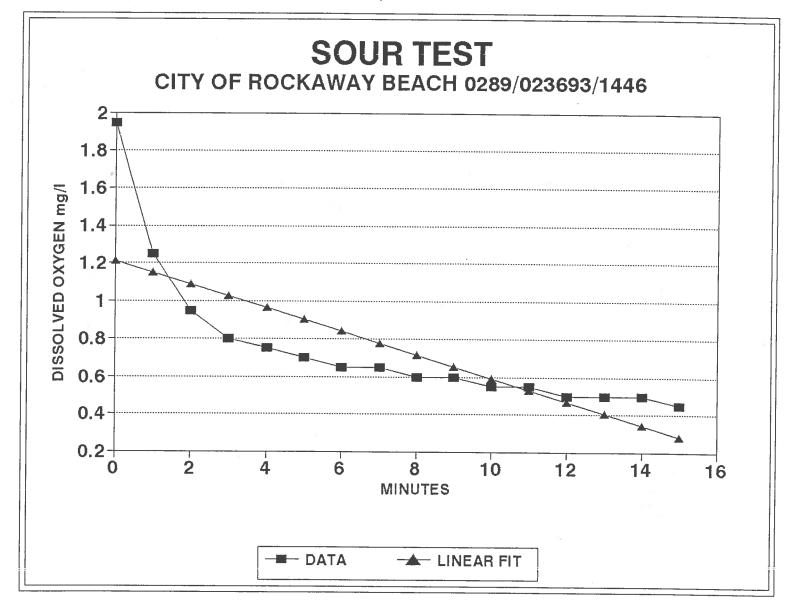




2804 EAST BATTLEFIELD, SPRINGFIELD, MISSOURI 65804, 417-882-1017, 1018

CITY OF ROCKAWAY BEACH, MISSOURI
Re: CaSi File/Case/Log: 0289/023693/1446.
Sludge Sample Collected 12-30-02. Received 12-30-02; 11:24.

January 21, 2003 Page 3



SPECIFIC OXYGEN CONSUMPTION RATE:

0.30 mg/g/hour

26 Buy



Custom Laboratory, Inc.

Analysis of; Water Feeds Soil

P.O. Box 391

Telephone: (417) 537-8337 Golden City, Missouri 64748

SAMPLE I.D.

204 C Street

Forage

SAMPLE DATE-NO 11/04/02-48

MARKE

ADDRESS ...

DWIGHT BROCKMAN TANEYVILLE MO

HAME ...

TANEY CO-SWCD

ADDRESS VALUE

FORSYTH MO

8011 1683		E.C.	301.15		RATIME	1972 1972 - 1972 - 1972	
and the second s	*		The state of the state of	;	· VERY LOW : LOW : MEDIUM : HIGH	H : VERY I	HIGH : EXCESS
The state of the s	Market B		A cold from the cold of the co	4124	ACTION OF THE REAL PROPERTY AND ACTION ASSESSMENT ASSES		
ALCIII.	asilawa	Tour	EINTRURK-	, man fin spirmen 400 to	***************************************		7.
IAGHESTUR	1	110	LBS/ACRE		*****		
WHASSIUM	í	151	LBS/ACRE		ANTERIFY PATERIAL		
MOSPHORUS (BRET TI	36	0 16	L8S/AURI	1	********		
H5a11	I	6.01		1	李等李章李章在第五字音名本章本本本章音音为四字字文章章名		
JOHN SEXTURE	1	SANDY	1096	1			
RIGARIO MATTER	:	2.05	*	l ,			
FUTRALIZABLE ACIDITY N.A.		1.8	#eq/100g	ř.			
ATION EXCHANGE CAPACITY C.E.C.	1	6.4	meq/100g	į			
TALCIUM BAGE SATURATION	ě	62.7	& *v	1			
AGNESIUM BASE SATURATION	-!	5.9	\$	300			
DIASSIUM BASE SATURATION	į,	3.2	ž	1			
					CUSTON SOIL RECOMMENDATIONS		

		CUSTON SOIL	RE	COMMEND	ATIONS			
CANADA AND ANDROOM CANADAS CONTRACTOR OF THE	Property of the property of the second of th	1441.00	1		ested Ann			ective
		Yield	i i	lbs/a	reatments los/a	lbs/a	lbs/a	tment lbs/a
ROPPING OPTIONS:		Goal	1	14	P205	K20	E.H.H.	ha
2001. SEASON GRASS	ESTABLISHMENT	07 0	!	30	64	12	0 =	86
IVERSEED LEGUMES INT	u aráss	0/0	t t	0	64	12	393	(32)
LOVER/GRASS	ESTABLISHMEN)	0/6	1	20	64	1.2	393	38
ARM SEASON GRASS	ESTABLISHMENT	0/ h	. 1	()	41.	12	Ü	SÓ

inder high management, use soluble source or Magnasium at a rate of 30 to 40 lbs/ac

This report applies to sample(s) Tested. Samples are retained a Maximum of thirty days after testing. **Custom Laboratory**

1	8	Ìτ	7
- "	-	,	

MISSOURI DEPARTMENT OF NATURAL RESOURCES WATER POLLUTION CONTROL PROGRAM

FORM S - DOMESTIC SLUDGE REPORTING

SECTION 1 - GENERAL INFORMATION - 7

OBITEIONE HITOKINI	THON
REPORTING PERIOD: (YEAR) 2003	
FACILITY NAME: RECKNING BINCH WILLTP. PERMIT NUMBER: MO-0/07/62 Instructions: See Instruction Sheet for directions.	CITY NAME CHYPT RECKA
Sludge Production, including sludge received from others: 15 Actual Dry Tons/Year 600 Actual Population Equivalent	
2. Sludge Treatment:	
Anaerobic Digester X Storage Tank Lime Stabilization Aerobic Digester Air or Heat Drying Other, Describe,	Composting
3. Sludge Use or Disposal: Complete the rest of this form only for the sections arbiosolids use or disposal.	oplicable to your method of sludge and
X All Permitees Land Application (LA) Contract Hauler (CH) > 150 PE Contract Hauler (CH) < 150 PE Hauled to another Treatment Facility (HT) Solid Waste Landfill (LF) Sludge Disposal Lagoon (SD) Incineration (IN) Sludge Hauled to Incinerator (IO) Complete Section	ns 2 & 3 ns 2 & 4 n = 4 n = 4 n = 4 n = 5 n = 6
4. Certification: I certify under penalty of law that the information contained in this correct. This determination has been made under my direction or supervision in ac assure that qualified personnel properly gather and evaluate the information used to been met. I am aware that there are significant penalties for false certification, inclumprisonment.	cordance with a system designed to
Edwin K. Godjen Plant Print Name Plant	Operator Official Title
Edwin & Horlly July 2004 Signature Date	417-56/44B4 Phone

<u>C.</u>	POLLUTANT	LIMITS	100
POLLUTAN		LOW METAL	CEILING CONCENTRATION
Arsenic	< 6,7	mg/kg DRY WGHT	mg/kg DRY WGHT
Cadimium	LO.67	41	75
Chromium	10.1	39	85
Copper	353	1,200	3,000
Lead	14.8	1,500	4,300
Mercury	<u> <6.7</u>	300	840
Molybdenum	9.40	17	57
Nickel	12,1	18	75
Selenium	· <6.7	420	420
Zinc	10/0	36	100
	•	2,800	7,500
D.	73.000		
	PATHOGENS		
The geo 2,000,0 gram of	ometric mean of the de 000 Most Probable Numb total solids (dry we Yes No	d for all sludges to show es treated by a PSRP appropriate of fecal coliform in the certain or colony forming sampling frequency 1 cotal solids for each group Sample date Sample date Sample date	s less than g Units (CFU) per p of 7 samples:
8.	VECTOR REDUCTIO	N PROCESSES	
38 [percent volatile soli	ds reduction (att	Ilations
•	a 27 mg 02/m1/g (at	tach graph and calculation	na)
Othe	r. Attach explanation	on.	

FORM S - SECTION 3 LAND APPLICATION
Permit No: 1/10-6109162
Facility Name: Rocknumy Beach W.W.T.F.
3.00 Land Application - General
This section is based on Missouri Water Pollution Control Permit Standard Conditions Part III dated August 15, 1994. For a dopy, contact the
Complete this section if sludge or biosolids were land applied for beneficial use by permittee or by contract hauler under permittee
3.01 dry tons of sludge applied during the report period.
average percent solids
If less than 12% solids: total gallons for year
If 12% solids or greater: cubic yards for year.
If 12% solids or greater: Cubic yards for year. 3.02 Sludge storage provided: 200,000 gallove cubic feet; days of storage. Number of days each month that it
and such month that Bludge was land applicat
Jan Feb Mar Apr May June July Aug Sept Oct Nov Dec
3.03 Who applies your sludge?
Permittee personnel Yes No
Contract person Yes No
Other, describe:
3.10 Applicability (Per Section H of Part III Standard Conditions)
3.11 Are there any land application sites farther than 20 miles from the wastewater treatment facility? Yes No
If yes, a separate permit is required for those sites; indicate permit numbers or submit new permit application for each site:
Permit numbers:
3.12 Are any industrial sludges land applied by the permittee?
Yes 1 No. 15 was acres to the permittee?
Yes V No If yes, complete the following: Permit No:;
Type of sludge
of the permit?
Yes No If yes, attach explanation sheet.
3.14 is sludge received from any out-of-state generators?
If this sludge is handled separately, complete separate Sections 2 and 3 of form S for the out-of state sludge.

FORM S - SECTION 2 LABORATORY RESULTS

			TOTAL TOTAL	4LTS	
Et unam		FORM SA		18.	
SLUDGE MONITORING	RESULTS	FOR METALS	Milmorman	1	
SLUDGE MONITORING Permit No: MO- 0/08/	10		MOTRIENTS,	PATHOGENS 1	AND VECTORS
	0/				
Facility Name: Rock	WAN BE	och WILL	- P - P - P - P - P - P - P - P - P - P	Calendar Yea	ir 2003
Hee All -	/	The second second	Te.		
Use this form to report control permit (NPDES) a copy, contact the dep	Standard	nitoring requ Conditions b	ired under	Missouri wa	tor mall
The slade and a u	ealan son.	. 9			
If the Facility has a d the sludge generated as 422 guide, Land applica Report a	tion of s	nd consequen	tly, no tes) Of 150 or	less, treat
Report a	ll regula	Pouge, for	further gui	dance.	Tred. See WQ
Attach copies of	resulti	on dry wei	ght basis.		
Attach copies of	all labor	atory result	s for the	itema balan	
A. MINTE	MY			TOTAL DETON	-
PARAMETER	OH MONTTO	RING LIST FO	R ALL PERMI	TTEES	
Total Solids	UNITS	AVERAGE	MINIMUM	MAXIMUM	NUMBER OF
		1.49	11	MUNITARIA	SAMPLES
Total Arsenic	mg/kg	×6,7	1/1		9
Total Cadmium	mg/kg		41	75	9
Total Chromium		<0.67	39	_85	9
Total Copper	mg/kg	10,1	1200	3000	0
	mg/kg	_253	1500	dan	
Total Lead	mg/kg	148	3017	1000	9
Total Mercury	mg/kg	<6.M	_000	840	9
Total Molybdenum -		1 10	_17_	_57	9
Total Nickel	mg/kg	_4,40	18	15	9
	mg/kg	12.1	420	Nm	
Total Selenium	mg/kg	<6.7	21	100	

		1000
B. ADDITIO	NAT. MOR	AL III/AND
	mg/kg	NITORING FOR LAND APPLICATION
Total Phosphorus as P	mg/kg	
Total Potassium as K	ma/ka	
If more than 2 dry tons of	sludge	per acre/year is applied complete following:
Organic nitrogen as N	mg/kg	applied complete following:
Ammonia Nitrogen as N	mg/kg	
Nitrate Nitrogen as N	mg/kg	

mg/kg

Total Zinc

Form S - Section 2. Page 3 of 3

FORM SB SLUDGE MONITORING RESULTS FOR PRIORITY POLLUTANTS AND OTHER SPECIAL TESTING

Permit No: MO-		Report 1	Period: Cal	lendar Year	88 II
Facility Name:		×			May be a succession from the constitution of the same of
Report	all resu	ilts on dry	weight bas	is.	
F.	PRIOR	TY POLLUTAI	NTS		
Report only those pollutar pollutants listed in secti	nts that on 2A.	were above Attach addi	detection tional shee	limits. Do ts as neede	not repeat
PARAMETER	UNITS	AVERAGE	MUNIMUM	MUMIXAM	Number of Samples
					
					
				ii .	
				E1.	
1					
			JIRED BY PE		
Report results of any addit section of your permit.	cional te	sting requi	red under t	he Special	Conditions

	Pollutant Limitations	96.1
3.21	Are metals within the ceiling concentration limit	
	Yes No If no, attach explanation	sheet.
3.22	Are metals within the low metals concentrations a sludge applications to date (including previous y 500 dry tons/acre?	ears) have not exceeded
	Yes No Attach list of sites using	g Form SC.
3.23	If you answered "No" to 3.22, complete the follow	ing.
	Have metals application rates reached any of the loadings? This is based on contributions from all loadings, including industrial sludges.	cumulative metals historical sludge
	Yes No Attach a list of sites us	ing Form SD.
	Soil test results for metals may be used if historest metals concentration in parts per million (proposix inches of soil and calculate pounds per accordance)	om) dry weight for the
	ppm (dry wt) in soil x 2 = pounds per acre	for 6" soil depth.
3.30	Management Practices	
3.31	Nitrogen Limitations	
	Which of the following nitrogen approaches was use	ed:
	Sludge applied up to 2 dry tons/acre/year?	YesNo
	Plant Available Nitrogen (PAN) approach?	Yes No
	number of composite samples. Results for and pounds per dry ton of sludge (lb/dt) [lb/dt =	PAN in mg/kg dry weight 0.002 x mg/kg]:
	and pounds per dry ton of sludge (lb/dt) [lb/dt = Average Minimum	PAN in mg/kg dry weight 0.002 x mg/kg]: Maximum
	and pounds per dry ton of sludge (lb/dt) [lb/dt =	0.002 x mg/kg]:
	and pounds per dry ton of sludge (lb/dt) [lb/dt = Average Minimum	0.002 x mg/kg]: Maximummg/kg
3.32	Average Minimum PAN mg/kg mg/kg	0.002 x mg/kg]: Maximummg/kglb/dTlb/dTng management practices .de, Best Management
	Average Minimum PANmg/kgmg/kg PANb/dTb/dT Have sludge applications complied with the following as listed in the University of Missouri WO 426 qui	0.002 x mg/kg]: Maximummg/kglb/dTng management practices
1. No	Average Minimum PAN mg/kg mg/kg PAN lb/dT Have sludge applications complied with the following as listed in the University of Missouri WQ 426 guident practices for Biosolids Land Application?	0.002 x mg/kg]: Maximummg/kglb/dTlb/dTng management practices .de, Best Management
1. No 2. Pu	Average Minimum PANmg/kgmg/kg PANlb/dTlb/dT Have sludge applications complied with the following as listed in the University of Missouri WQ 426 guing Practices for Biosolids Land Application? O discharge of biosolids from application site	0.002 x mg/kg]: Maximummg/kglb/dT .ng management practices.de, Best Management Yes No
1. No 2. Pu 3. Cr	Average Minimum PANmg/kgmg/kg PANlb/dTlb/dT Have sludge applications complied with the following as listed in the University of Missouri WQ 426 guing Practices for Biosolids Land Application? In discharge of biosolids from application site application site application site application.	0.002 x mg/kg]: Maximummg/kglb/dT Ing management practices Ide, Best Management Yes No Yes No
1. No 2. Pu 3. Cr 4. Ha	Average Minimum PAN mg/kg mg/kg PAN lb/dT lb/dT Have sludge applications complied with the following as listed in the University of Missouri WQ 426 guid Practices for Biosolids Land Application? O discharge of biosolids from application site ablic contact sites restriction	Maximummg/kglb/dTlb/dTng management practices.de, Best ManagementNoNoNoNoNoNoNo
1. No 2. Pu 3. Cr 4. Ha	Average Minimum PANmg/kgmg/kg PANlb/dTlb/dT Have sludge applications complied with the following as listed in the University of Missouri WQ 426 guing Practices for Biosolids Land Application? In discharge of biosolids from application site application site applications The property of the	Maximummg/kgmg/kglb/dTng management practices.de, Best ManagementNoNoNoYesNoNoYesNoNoYesNoNoYesNoNoNoNoNoNoNoNoNo
1. No 2. Pu 3. Cr 4. Ha 5. Th	Average Minimum PANmg/kgmg/kg PANlb/dTlb/dT Have sludge applications complied with the following as listed in the University of Missouri WQ 426 guing Practices for Biosolids Land Application? In discharge of biosolids from application site applications arvest and grazing restictions Arvest and grazing restictions Arreatened or endangered species protection	0.002 x mg/kg]: Maximummg/kglb/dT Ing management practices de, Best Management Yes No
1. No 2. Pu 3. Cr 4. Ha 5. Th 6. Ni 7. Bu	Average Minimum PANmg/kgmg/kg PANlb/dTlb/dT Have sludge applications complied with the following as listed in the University of Missouri WQ 426 guing Practices for Biosolids Land Application? In discharge of biosolids from application site applications arvest and grazing restictions Arvest and grazing restictions Arreatened or endangered species protection Attrogen limitations	Maximum mg/kglb/dT Ing management practices de, Best Management Yes No
1. No 2. Pu 3. Cr 4. Ha 5. Th 6. Ni 7. Bu 8. Sl	Average Minimum PAN mg/kg mg/kg PAN lb/dT lb/dT Have sludge applications complied with the following as listed in the University of Missouri WQ 426 guing Practices for Biosolids Land Application? O discharge of biosolids from application site ablic contact sites restriction from restrictions arvest and grazing restictions are attended or endangered species protection affer zones	Maximum mg/kglb/dT Ing management practices de, Best Management Yes No Yes No

FORM S - SECTION 3 Page 3 of 4		
11. Biosolids storage	✓ Yes _	No
12 Application rates	✓ Yes	
13. Application equipment	Yes	No
14 Soil pH limitations	✓ Yes	
15. Soil phosphorus limitations	<u> </u> Yes _	No
16. Soil depth limitations	Yes .	
17 Record keeping	V Yes	No
If No. attach sheet with explanation.		
3.33 Class A Sludge (Per WQ 424 guide - Biosolids Standa		
Does the sludge meet Class A pathogen reduction?		Yes No
Does the sludge meet Class A pathogen reduced to the sludge been applied to public use sites	3?	Yes V No
If yes to the second question in 3.33, contact bake.	•	
3 40 Operational Standards for Class B Biosolids (see WC	2 424)	_
Class B pathogen reduction requirements were model coliform limits under section 2D or a PSRP list coliform limits under section 2D or a PSRP list collection and indicate process are supported to the collection of the collection requirements were models.	met by eith sted in WQ s option us	ed.
Class B pathogen requirements not currently me and schedule of compliance.	et; Attach	explanation
and schedule of compliance. 3.41 Vector Attraction reduction requirements were met.	<u> </u>	No
3.50 Monitoring Frequency (Per WQ 424 - Monitoring Red Biosolids Land Application)		for
Attach a summary of the monitoring results on Form	SA	
3.51 Sludge testing for metals was performed:		
once/year once/6 months		
once/quarter once/month	3. 6	lagoon
once/week once/100 dry tons	removed ir	om lagoon.
Other, specify		
3.52 Permittee is required to have an approved pretreat	ment progra	am.
Veg No If yes attach Form SB.		•
3.53 Total Solids testing was performed at least once papplication periods?		ing land
Yes No If No, attach explanation	n	
3.54 Nitrogen testing was performed per the frequency is This frequency is		
Yes No If No, attach explanation	n.	

FORM S - SECTION 3. - Page 4 of 4

3.55 Total phosphorus and total potassium were tested at the same frequency required for metals as indicated in WQ 423.
Yes No If No, attach explanation.
3.56 Soil testing for pH and Cation Exchange Capacity (CEC) and available phosphorus has been conducted within the last five years.
\mathcal{V} Yes No If No, attach explanation.
3.57 Was any additional sludge or soil testing required under the special conditions section of your water pollution control (NPDES) permit?
Yes $$ No If yes, attach a summary using Form SB.
mo 108 162
Permit No: 1110-105 105 Report Period: Calendar Year 1005
Permit No: MO-108162 Report Period: Calendar Year 2005 Facility Name: Rockaway Beach WW.T.P.
3.60 CERTIFICATION FOR LAND APPLICATION
Check all that apply.
I certify under penalty of law that:
records on testing, and pollutant loadings, as listed above in Section 2, have been kept in accordance with 40 CFR 503.17.
the management practices, as listed above in Section 2, have been met in accordance with 40 CFR 503.14.
the Class B pathogen requirements and the site restrictions, as listed above in Section 2, have been met in accordance with 40 CFR 503.15 and 503.32.
one of the vector attraction requirements, as listed above in Section 2, have been met in accordance with 40 CFR 503.15 and 503.33.
This determination has been made under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information used to determine these requirements have been met. I am aware that there are significant penalties for false certification, including the possibility of fine and imprisonment.
Name Edwin K. Godfen Plant operator Official Title
Signature Date

MISSOURI DEPARTMENT OF NATURAL RESOURCES - WATER POLLUTION CONTROL PROGRAM

FORM SC LAND APPLICATION OF BIOSOLIDS WITH LOW METALS CONCENTRATIONS

Use this form for application sites which have received biosolids with low metals concentrations per Section 3.22 of Form S. Enter the site number for each field based on the site maps on file at the facility. Report biosolids application rate in dry tons per acre per year (dt/ac/yr). Attach additional copies of this sheet as needed.

Permit No: MO-	Report Period:	: Calendar Year
Facility Name:		
Site No Owners Name:		Charles Resident
Legal:1/4,1/4, Sec, T		
Biosolids:dt/ac/yrAcres		
Crops grown:		Soil pH
Site No Owners Name:		
Legal:1/4,1/4, Sec, T_	, R,	County
Biosolids:dt/ac/yrAcres	Nitrogen:	lbs/ac/yr (TKN or PAN)
Crops grown:		Soil pH
Site No Owners Name:		
Legal:1/4,1/4, Sec, T_		
Biosolids:dt/ac/yrAcres		
Crops grown:		Soil pH
Site No Owners Name:		
Legal:1/4,1/4, Sec, T_		
Biosolids:dt/ac/yrAcres		
Crops grown:	· · · · · · · · · · · · · · · · · · ·	Soil pH
Site No Owners Name:		
Legal:1/4,1/4, Sec, T_		
Biosolids:dt/ac/yrAcres		
Crops grown:		Soil pH
Site No Owners Name:	1	
Legal:1/4,1/4, Sec, T_		
Biosolids:dt/ac/yrAcres		
Crops grown:		Soil pH



2804 EAST BATTLEFIELD, SPRINGFIELD, MISSOURI 65804, 417-882-1017, 1018

CITY OF ROCKAWAY BEACH

CaSi File/Case/Log: 0289/033606-3615/1592. Samples Received 12-30-03; 13:40.

January 26 2004 Page 4

Values expressed in milligrams per liter, unless otherwise specified.

CONTROL NUMBER		033614	033615	
SAMPLE DESCRIPTION	LE DESCRIPTION		INFLUENT	ANALYSIS
PARAMETER	METHOD	12-30-03 11:00	12-30-03 10:45	DATE/TIME
TOTAL PHOSPHORUS as P	365.2 ❖┿	1.93	7.12	01-05-04 19:15

EPA Methods for Chemical Analysis of Water and Wastes, 1983, Cincinnati, Ohio.

Spectrophotometric.

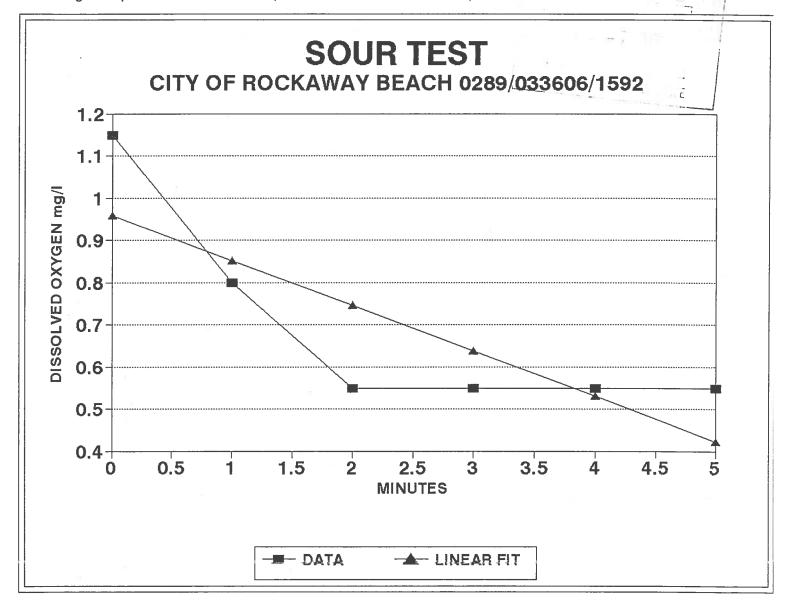




2804 EAST BATTLEFIELD, SPRINGFIELD, MISSOURI 65804, 417-882-1017, 1018

CITY OF ROCKAWAY BEACH, MISSOURI
Re: CaSi File/Case/Log: 0289/033606/1592.
Sludge Sample Collected 12-29-30-03; 13:15-10:00. Received 12-30-03; 13:40.

January 26, 2004 age 3



SPECIFIC OXYGEN CONSUMPTION RATE:

< 1.0 mg/g/hour



2804 EAST BATTLEFIELD, SPRINGFIELD, MISSOURI 65804, 417-882-1017, 1018

17 OF ROCKAWAY BEACH, MISSOURI
2804 EAST BATTLEFIELD, SPRINGFIELD, MISSOURI 65804, 417-882-1017, 1018
2904 EAST BATTLEFIELD, EAST BATTLEFIELD, MISSOURI 65804, 417-882-1017, 1018
2904 EAST BATTLEFIELD, EAST BAT

Re: CaSi File/Case/Log: 0289/033606-3615/1592. Sludge Sample Collected 12-29-30-03; 13:15-10:00. Received 12-30-03; 13:40.

PARAMETER	WET WEIGHT VALUE mg/kg	DRY WEIGHT VALUE mg/kg	DRY WEIGHT VALUE lbs/ton
ARSENIC, total	<0.1	<6.7	<0.01
CADMIUM, total	<0.01	<0.67	<0.001
CHROMIUM, total	0.15	10.1	0.02
COPPER, total	3.77	253	0.51
LEAD, total	0.22	14.8	0.03
MERCURY, total	<0.1	<6.7	<0.01
MOLYBDENUM, total	0 14	9.40	0.02
NICKEL, total	0.18	12.1	0.02
SELENIUM, total	<0.1	<6.7	<0.01
ZINC, total	15.1	1010	2.03
TOTAL KJELDAHL NITROGEN	915	61400	123
AMMONIA AS NITROGEN	16.1	1080	2.16
ORGANIC NITROGEN	899	60300	121
NITRATE/NITRITE AS NITROGEN	2.32	156	0.31
TOTAL PHOSPHORUS AS P	372	25000	50
TOTAL POTASSIUM	142	9530	19
PLANT AVAILABLE NITROGEN	193	13000	26
FECAL COLIFORM Geometric Mean of 7 Samples	41,400	2,780,000	UNITS CFU/g
PERCENT SOLIDS	1.49 %		
VOLATILE PERCENT OF SOLIDS	81.88 %		
PERCENT ASH	0.27 %		

20 Brey

[♣] US EPA Test Methods for Evaluating Solid Waste, SW-846, Third Edition 1986, and the Latest Promulgated Update.



Custom Laboratory, Inc.

Analysis of; Water Feeds Soil Forage

P.O. Box 391

Telephone: (417) 537-8337 Golden City, Missouri 64748

204 C Street

DAMPES DATE-NO 11/04/02-48

SAMPLE I.T.

SOIL

MAME

DWIGHT BROCKMANT TAMEYVILLE MO NAME

TANEY CO SWCD

FORSYTH MO

SON TEST		E.C.	SUL 15						RAI	ING				
3011		W-14-75	And Thermotellia there is	1	· VERY L	.OW :	LOW	:	MEDIUM	;	HICK	: VERY HIGH	: 1	XCESS
		I Commission			op the section was all the	Bittinara	****		THE STREET COLUMN TWO IS NOT THE	ا بر				
ALCIUM	Spirit	400	EIR/TORE			*******	******	NA P	, Y	- 7	(PE)		10	The state of the s
1AGNESIUM	1	90	LBS/ACRE	1	*****					- [11-1			
761 ASS1UM	ĺ	157	LBS/ACRE	4	******	*******	4. 4			- 1				
PHOSPHORUS (BRAY T)	!	- 16	L8S/AURE	ì	*****	*****				1				
185a11	1	6.01		1	*****	****	*****	*****	*	- 1		7	Like	
FOIL TEXTURE	į	SANDY	LOAM	l l								F 1		¥
PREARIC MATTER		2.05	*	1						1				
WEUTRALIZABLE ACIDITY N.A.	1	1.8	meq/100g	i.							911	16.11	100	. J.C.
CATION EXCHANGE CAPACITY C.E.C.	1	6.4	meq/100g	ı.						ţ			No. 1 1 - 1 1	-
CALCIUM BASE SATURATION	1	62.7	4											
MAGNESTUM BASE SATURATION	1	5.9	*	= 1										
POTASSIUM BASE SATURATION	į į	4.2	ች	1	0000	1			10 670 17	2110				
Annual Commission of the Commi					chalo	1 2011	r Rect				A me un 1		C'AS I	rective
							;	3711	ggeste	50 t	Annual	1	UUT	1.60 00 40

Service (a.e. December) in the residence of the Computer of th		name in out to the second of the second	Sugg	Suggested Annual			Corrective		
			1 9 2	Treatments	9 2 5	Trea	tment		
		Yield	lbs/a	ibs/a	lbs/a	lbs/a	jps/s.		
TROPPING OPTIONS:		Goal	* e 14	P205	K20	E.M.M.	ha		
COOL SEASON GRASS	ESTABLISHMENT	0/ 0	30	5. 64	12	0	80		
OVERSEED LEGUMES INTO	GRÁSS	0/_0	0	64	12	393	38 ³⁸		
DLOVER/GRASS	ESTABLISHMENT	υ/ G ⁻¹	20	64	1.2	393	38		
√ARM SEASON GRASS	ESTABLISHMENT	0/ 0	0	41	= 12	0	80		

Under high management, use soluble source of Magnesium at a rate of 30 to 40 lbs/ac

This report applies to sample(s) Tested. Samples are retained a Maximum of thirty days after testing.

Custom Laboratory

Bv	 	

MISSOURI DEPARTMENT OF NATURAL RESOURCES WATER POLLUTION CONTROL PROGRAM

FORM S - DOMESTIC SLUDGE REPORTED IN BOUND SECTION 1 - GENERAL INFORMATION MAY 1 1 2005

REPORTING PERIOD: (YEAR) 2004	DO MAI I LUVO
FACILITY NAME: ROCKAWAY BEACH W.W.T.P.	SOUTHWEST REGIONAL OFFICE CITY NAME: City OF Rechi
PERMIT NUMBER: MO-6/08/62	COUNTY NAME: TAVEY
Instructions: See Instruction Sheet for directions.	
Sludge Production, including sludge received from others: 19	nt
2. Sludge Treatment:	
Anaerobic Digester Storage Tank Lime Stabilization Aerobic Digester Air or Heat Drying Other, Describe,	Composting
3. Sludge Use or Disposal: Complete the rest of this form only for the sections biosolids use or disposal.	applicable to your method of sludge and
X All Permitees Land Application (LA) Contract Hauler (CH) > 150 PE Contract Hauler (CH) < 150 PE Hauled to another Treatment Facility (HT) Solid Waste Landfill (LF) Sludge Disposal Lagoon (SD) Incineration (IN) Sludge Hauled to Incinerator (IO) Complete Sectors	ions 2 & 3 ions 2 & 4 ion 4 ion 4 ion 5 ion 6
4. Certification: I certify under penalty of law that the information contained in to correct. This determination has been made under my direction or supervision in assure that qualified personnel properly gather and evaluate the information used been met. I am aware that there are significant penalties for false certification, in imprisonment.	accordance with a system designed to
Edwin K. Godley Plant of	Occator Official Title
Edwin R. Holly Apr. 27, 2005_ Signature Date	417-56/-4484 Phone
61.90	• 35



Form S - Section 2: Page 2 of 3 SOUTHWEST REGIONAL OFFICE

POLLUTANT AV. SAMPLE CONCENTRATIONN mg/kg DRY WGHT Arsenic Arsenic CAdimium CONCENTRATION mg/kg DRY WGHT Arsenic CAdimium CONCENTRATION mg/kg DRY WGHT Arsenic CAdimium CONCENTRATION mg/kg DRY WGHT Mg/kg DRY Mg/kg D	<u>C</u> .	POLLUTANT LIN	1ITS	
mg/kg DRY wGHT Arsenic	POLLUTANT	AV. SAMPLE	LOW METAL	CEILING
Cadimium	Arconia	mg/kg DRY WGHT	mg/kg DRY WGHT	CONCENTRATION
Chromium 6,10 1,200 3,000 Copper 150 1,500 4,300 Lead 8,75 300 840 Mercury 4,7 17 57 Molybdenum 7,57 420 420 Selenium 7,57 36 100 Selenium 7,57 36 100 Z,800 7,500 PATHOGENS Pathogen testing is required for all sludges to show operational compliance, including sludges treated by a PSRP approved method. The geometric mean of the density of fecal coliform is less than 2,000,000 Most Probable Number (MPN) or Colony Forming Units (CFU) per gram of total solids (dry weight basis) for each group of 7 samples: Yes No Sampling frequency 1 PER MPAR Geometric mean per gram of total solids for each group of 7 samples wa 400000 MPN/CFU Sample date MPN/CFU Sample date MPN/CFU Sample date MPN/CFU Sample date MPN/CFU Sa			41	75
Copper 150 1,500 4,300 Lead 8.45 300 840 Mercury 4.67 17 57 Molybdenum 4.69 18 75 Nickel 7.57 420 420 Elenium 4.77 36 100 Zinc 7.57 2,800 7,500 PATHOGENS PATHOGENS Pathogen testing is required for all sludges to show operational compliance, including sludges treated by a PSRP approved method. The geometric mean of the density of fecal coliform is less than 2,000,000 Most Probable Number (MPN) or Colony Forming Units (CFU) per gram of total solids (dry weight basis) for each group of 7 samples: Yes No Sampling frequency 1 PR YEAR Geometric mean per gram of total solids for each group of 7 samples was 400,000 MPN/CFU Sample date 18 100 MPN/CFU Sample date 100 MPN/CFU Sample date			39	85
Lead 8.45 Mercury < 4.7 Molybdenum - 4.69 Mickel 7.57			1,200	3,000
Mercury Mercury Mercury Molybdenum Mercury Molybdenum Molybd	Copper	(8)	1,500	
Adolybdenum - 4.69 18 75 Alcickel 7.5/ 420 420 Alcickel 7.5/ 420 100 Alcickel 7.5/ 36 100 Alcickel 7.5/ 2.800 7.500 PATHOGENS Pathogen testing is required for all sludges to show operational compliance, including sludges treated by a PSRP approved method. The geometric mean of the density of fecal coliform is less than 2,000,000 Most Probable Number (MPN) or Colony Forming Units (CFU) per gram of total solids (dry weight basis) for each group of 7 samples: Yes No Sampling frequency 1 PER YEAR Geometric mean per gram of total solids for each group of 7 samples was 400000 MPN/CFU Sample date MPN/CFU Sample date MPN/CFU Sample date MPN/CFU Sample date VECTOR REDUCTION PROCESSES	Lead	8:45	300	
18 75 16 17 18 18 19 19 19 19 19 19	Mercury	<u> </u>	17	
### Application Application	Molybdenum	- 4.69	-18	
PATHOGENS PATHOGENS Pathogen testing is required for all sludges to show operational compliance, including sludges treated by a PSRP approved method. The geometric mean of the density of fecal coliform is less than 2,000,000 Most Probable Number (MPN) or Colony Forming Units (CFU) per gram of total solids (dry weight basis) for each group of 7 samples: Yes No Sampling frequency 1 PER HERR Geometric mean per gram of total solids for each group of 7 samples wa HOLOGIU Sample date 18/87/04/ MPN/CFU Sample date MPN/CFU Sample date VECTOR REDUCTION PROCESSES 38 percent volatile solids reduction (attach calculations).	Nickel	7.51		
PATHOGENS Pathogen testing is required for all sludges to show operational compliance, including sludges treated by a PSRP approved method. The geometric mean of the density of fecal coliform is less than 2,000,000 Most Probable Number (MPN) or Colony Forming Units (CFU) per gram of total solids (dry weight basis) for each group of 7 samples: Yes No Sampling frequency 1 PER MEAR Geometric mean per gram of total solids for each group of 7 samples wa MPN/CFU Sample date MPN/CFU Sample date MPN/CFU Sample date MPN/CFU Sample date MPN/CFU Sample date MPN/CFU Sample date MPN/CFU Sample date	Selenium	· <4.7		74
PATHOGENS Pathogen testing is required for all sludges to show operational compliance, including sludges treated by a PSRP approved method. The geometric mean of the density of fecal coliform is less than 2,000,000 Most Probable Number (MPN) or Colony Forming Units (CFU) per gram of total solids (dry weight basis) for each group of 7 samples: Yes No Sampling frequency 1 PER MERR Geometric mean per gram of total solids for each group of 7 samples wa MPN/CFU Sample date MPN/CFU Sample date MPN/CFU Sample date VECTOR REDUCTION PROCESSES 38 percent volatile solids reduction (attach calculations).	Zinc	9-44		100
The geometric mean of the density of fecal coliform is less than 2,000,000 Most Probable Number (MPN) or Colony Forming Units (CFU) per gram of total solids (dry weight basis) for each group of 7 samples: Yes No	Pathoge complia:	n testing is required nce, including sludges	for all sludges to show treated by a PSRP appr	operational
38 percent volatile solids reduction (attach calculations).	The geomogram of	metric mean of the der 00 Most Probable Number total solids (dry wein Yes No ic mean per gram of to MPN/CFU MPN/CFU	nsity of fecal coliform er (MPN) or Colony Formit ght basis) for each grows Sampling frequency 1 ctal solids for each grows Sample date 18/8	is less than ng Units (CFU) per up of 7 samples: PER YEAR up of 7 samples was
38 percent volatile solids reduction (attach calculations). SOUR test, mg O ₂ /hr/g (attach graph and calculations)		VECTOR REDUCTION	N PROCESSES	H.
SOUR test, mg O ₂ /hr/g (attach graph and calculations)		percent volatile solic	ds reduction (attach cal	culations).
	✓ sou	R test, mg O,/hr/q (at	tach graph and calculate	ional

FORM S - SECTION 2

LABORATORY RESULTS

FORM SA

SOUTHWEST REGIONAL OFFICE

SLUDGE MONITORING RESULTS FOR METALS, NUTRIENTS, PATHOGENS AND VECTORS

Permit No: MO-010816-1 Facility Name: Rockflu			Period: C	alendar Yea	3004
			, <u> </u>		
Use this form to report pollution control permit August, 1994. For a copy					
If the Facility has a detreat the sludge generate required. See WQ 422 guid	sign popu	lation equiv	alent (P.E	.) of 150 or	less,
		on dry weig		, for furthe	er guidance.
Attach copies of a	III IADOFA	scory result	s for the i	tems below.	
A. MINIM	JM MONITOR	RING LIST FO	R ALL PERMI	TTEES	
PARAMETER	UNITS	AVERAGE			NUMBER OF
Total Solids		B.13	MINIMUM	MAXIMUM	SAMPLES
Total Arsenic	*	1110		00	8
	mg/kg	505	20	15	
Total Cadmium	mq/kq	1.10	27	35	8
Total Chromium	mg/kg	6.70	1200	3000	8
Total Copper	mq/kq	150	1500	4000	
Total Lead	mg/kg	8,45	300	840	8
Total Mercury	mg/kg	<u> </u>	_17_	57	8
Total Molybdenum	mq/kq	4.69	_18_	15	
Total Nickel	mq/kq	7.51	420	420	8
Total Selenium	mq/kq	<4.7	36	100	8
Total Zinc	mq/kq	944	2800	1500	8
		9			
B. ADDITIO	ONAL MONIT	FORING FOR L	AND APPLICA	ATION	
Total Kjeldahl Nitrogen	mg/kg				
Total Phosphorus as P	mq/kq				
Total Potassium as K	mg/kg				
If more than 2 dry tons of			v ja saalis	d complete	following
Organic nitrogen as N		er acre/leg	r ra gbbrie	d combiece	rorrowing:
ordenite mittodell as M	mg/kg				

mg/kg

mq/kq

mq/kq

Ammonia Nitrogen as N

Nitrate Nitrogen as N

FORM S - SECTION 3 Page 2 of 4
3.20 Pollutant Limitations MAY 1 1 2005
3.21 Are metals within the ceiling concentration limit?
Yes No If no, attach explanation sheet.
3.22 Are metals within the low metals concentrations and the total of all sludge applications to date (including previous years) have not exceeded 500 dry tons/acre?
Yes No Attach list of sites using Form SC.
3.23 If you answered "No" to 3.22, complete the following.
Have metals application rates reached any of the cumulative metals loadings? This is based on contributions from all historical sludge loadings, including industrial sludges.
YesNo Attach a list of sites using Form SD.
Soil test results for metals may be used if historical use is not known. Test metals concentration in parts per million (ppm) dry weight for the top six inches of soil and calculate pounds per acre as follows:
ppm (dry wt) in soil x 2 = pounds per acre for 6° soil depth.
3.30 Management Practices
3.31 Nitrogen Limitations
Which of the following nitrogen approaches was used:
Sludge applied up to 2 dry tops / apple
Plant Available Nitrogen (PAN) approach2
number of composite samples. Results for PAN in mg/kg dry weight and pounds per dry ton of sludge (lb/dt) [lb/dt = 0.002 x mg/kg]:
Average Minimum Maximum
PANmg/kgmg/kgmg/kg
PANlb/dTlb/dTlb/dT
3.32 Have sludge applications complied with the following management practices as listed in the University of Missouri WQ 426 guide, <u>Best Management Practices for Biosolids Land Application</u> ?
1. No discharge of biosolids from application site
2. Public contact sites restriction Yes No
3. Crop restrictions YesNo
4. Harvest and grazing restictions Yes No
5. Threatened or endangered species protection Yes No
6. Nitrogen limitations Yes No
7. Buffer zones Yes No
8. Slope limitations for application sites Yes No
9. Storm water runoff No
10. Frozen, snow-covered or saturated soil conditions $\stackrel{\textstyle \mathcal{V}}{}$ Yes $\stackrel{\textstyle }{}$ No